

Occupational Stress Among Schoolteachers: A Review of Research Findings Relevant to Policy Formation

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The author reviews the different conceptualizations of teacher stress and burnout, and agrees that the interactional approach proposed by Dunham (1992) is more constructive. The author goes on to review the research literature on prevalence, sources, and effects of occupational stress among schoolteachers in other countries and in Hong Kong. Research findings on the coping strategies that teachers use to tackle stress are also reviewed. The author identifies policy changes that can potentially reduce levels of stress among Hong Kong teachers. Specifically, unresolved issues relating to teacher stress in the light of the reports of the Education Commission are discussed. They include: medium of instruction, common-core curriculum, allocation of Form 1 places, and behavioural problems in classrooms. Based on a qualitative costs and benefits analysis, the author concludes the paper by proposing the expansion of educational psychology services in Hong Kong as a targeted alternative for reducing teacher stress.

A growing body of evidence links job-related stress to mental ill-health. Its symptoms include absenteeism, lost productivity, and physical ill-health, including particularly coronary disease. Though Kasl (1984) found that teachers and professors had significantly lower rates of arteriosclerotic

* The author would like to express her gratitude to Professor David Weimer, University of Rochester and Dr. Brian Bridges, Lingnan College for their valuable comments and support.

heart disease than physicians, lawyers, pharmacists, and insurance agents, recent studies suggest that teachers face high, and perhaps growing levels of occupational stress. It has been found that teacher stress is related to high rates of absenteeism and turnover (Borg & Riding, 1991; Cotanch, 1984). These employment-related effects of teacher stress make it a potentially important issue for school administrators and educational policy makers.

Work-related stress is generally high in Hong Kong. Recently, a group of British academics, who conducted a survey with 5,000 people from 16 countries including 300 from Hong Kong, reported that Hong Kong has been ranked as the most stressful workplace in the world ("How to survive stress," 1995). With respect to teaching specifically, within a six-week period in November and December 1994, four Hong Kong schoolteachers committed suicide. These suicides aroused public awareness of the stress faced by teachers.

The purpose of this paper is to review the research literature on occupational stress among schoolteachers in other countries as well as in Hong Kong so as to identify policy changes that can potentially reduce levels of stress among Hong Kong teachers. Though the major advantages and disadvantages of potential changes are briefly discussed, they are presented primarily to encourage further analyses and debates.

Conceptualization of Teacher Stress

An early analysis came from Kyriacou and Sutcliffe (1978a), who presented a model of teacher stress which conceptualized teacher stress as "a response syndrome mediated by an appraisal of threat to the teacher's self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat" (p. 5).

Tollenback, Brenner and Lofgren (1983) introduced a conceptual model of teacher stress which built upon the one proposed by Kyriacou and Sutcliffe (1978a). They incorporated neighbourhood characteristics in this model as they believed that "the social context of the school influences the frequency of stressors within it" (p. 20). This model was verified partially by later studies (Brenner & Bartell, 1984; Brenner, Sorbom & Wallius, 1985).

A more sophisticated analysis was made by Dunham (1992), who defined stress as a process of behavioural, emotional, mental, and physical reactions caused by prolonged, increasing or new pressures that are

significantly greater than the availability of "coping" strategies. He advocated that three main approaches could be used to understand the nature of stress in teaching. The first one is analogous to the "engineering" model of stress. There are external pressures exerted on teachers in schools, and teachers have limits to stress. In this approach, stress is a set of causes.

The second approach is based on the "physiological" model, which focuses on the forms of reactions taken by teachers in response to these pressures. They may be emotional and bodily manifestations. The third one is the interactional approach that emphasizes the need to identify the sources of stress and the behaviour that they adopt to cope with these demands.

Before the 1990s, the concept of teacher stress was mainly defined by the cause-and-effect approach. Dunham (1992) has provided new insights by proposing a third emphasis on coping strategies that teachers can adopt to tackle stress problems. The rationale of this approach is that, in order to understand stress, more attention should be given to problem-solving and coping behaviour. I believe that this third approach proposed by Dunham is a constructive line of research that can contribute to policy reform.

Conceptualization of Burnout

It is necessary also to consider the interrelationship between stress and burnout. Freudenberger (1980) simply equated burnout with stress. Cherniss (1980) defined burnout as negative personal changes which occurred over time in professionals working in demanding or frustrating jobs. Cunningham (1983) considered burnout to be one negative consequence of the long-term effects of stress, but not all stresses led to burnout. Maslach and Jackson (1981, 1986) described burnout as a syndrome of emotional exhaustion (feeling overextended and worn-out from work), depersonalization (lack of reactivity); and lack of personal accomplishment (feeling incompetent and unsuccessful on the job).

However, Farber (1984b) has been critical of the fact that there have not been many studies done on distinguishing between the concepts of teacher stress and teacher burnout. Obviously, stress can have both positive and negative effects; whereas burnout is a long-term negative result of work stress. In some more recent studies, therefore, some researchers have begun to acknowledge the difference between the two concepts and do not simply use the two terms interchangeably (Carpel, 1987, 1992; Jenkins & Calhoun, 1991).

What Does Research Tell Us About Stress and Burnout Among Teachers?

I would like to categorize the literature on stress and burnout among teachers into four main areas: (a) prevalence of stress, (b) causes of stress, (c) effects of stress, and (d) coping strategies.

Prevalence of Teacher Stress

Comparisons Between Teachers and Other Professionals

A number of surveys has pointed to the comparatively stressful nature of teaching. Pratt (1976) reported that 60 per cent of teachers and 51 per cent of other professionals experienced some or severe nervous strain at work. T. Cox, Mackay, S. Cox, Watts, and Brockley (1978) revealed that 78 per cent of teachers, but only 38 per cent of other professionals, considered work as the main source of stress in their lives. Kyriacou (1980) reported that teachers, when compared to people in other professions, had the highest levels of occupational stress. It seems from these studies that teachers do experience a higher level of stress than many other professionals.

Comparisons Among Teachers

Evidence of the incidence of stress amongst different categories of teachers, however, is less conclusive. Dunham (1976) conducted a survey that included reports from 658 infant, junior, and secondary schoolteachers in England and concluded that more teachers were experiencing stress, and that severe stress was being experienced by more teachers. Smilansky (1984) found that, in general, better teachers reported higher levels of stress. Kyriacou (1987) revealed that staff in special schools reported twice as many potential stressors as those in normal schools. Trendall (1989) conducted a study of 237 teachers in primary, secondary and special schools in one Local Education Authority in England. He found that primary teachers experienced more stress than other groups, while teachers in special schools reported less stress. Beer and Beer (1992) compared 33 teachers from a special school and 57 teachers from three high schools and found that those teaching in regular schools experienced less burnout and stress than those in the special school. It seems that the above findings are inconsistent.

Causes of Teacher Stress

Quite a number of studies on teacher stress and burnout have identified the causes for stress. Similar findings were obtained from studies done in different countries. In a Swedish study, Wahlund and Nerell (1976) found that the most frequently stated causes of stress were large class size, incompatible and excessive demands on teachers, and frequent school reforms. In the United Kingdom, T. Cox et al. (1978) identified five factors associated with job satisfaction: school organization, job demands, teaching resources and job environment, career and training, and pupil behaviour. In a similar study, Kyriacou and Sutcliffe (1978b) reported four sources of stress which were common among teachers in British comprehensive schools: pupil misbehaviour, poor working conditions, time pressure, and poor school ethos.

Smilansky (1984) examined teachers' work satisfaction and reports of job-related stress in some English elementary schools, and he found that teachers' general satisfaction and stress at work were related mostly to their reported feelings about what had happened within class (such as relations with pupils, the process of teaching, and pupil behaviour in school) rather than to administrative or policy questions (such as degree of work autonomy, relations with principals). Carpel (1992) examined the causes of stress and burnout in 405 middle- and upper-high school and sixth-form college teachers in one Local Education Authority in England. Role conflict, locus, stability of personality, and anxiety were found to be potential sources of stress and burnout.

In the United States, Clark (1980) developed the Teacher Occupational Stress Factor Questionnaire (TOSFQ) to identify five factors: professional inadequacy, teacher-principal professional relationship, collegial relationship, group instruction, and job overload. The construct validity of this instrument was later demonstrated by several studies done in the United States (Foxworth, Karnes, & Leonard, 1984; Moracco, Danford, & D'Arienzo, 1982). Furthermore, Farber (1984a) assessed the sources of stress of 365 suburban teachers in the United States and found that excessive paperwork, unsuccessful administrative meetings, and the lack of advancement opportunities in teaching were related to stress.

In a study done in New Zealand, Dewe (1986) identified the following work stressors: task overload, lack of control over activities and outcomes, insufficient satisfaction from work, role conflicts, rapid or unpredictable changes, interpersonal conflicts, unrealistic expectations, and feelings of

inadequacy. Payne and Furnham (1987) reported data from 444 secondary teachers in Barbados and found that difficulties associated with instructional and managerial demands were perceived as the most stressful aspects of their work. Manso-Pinto (1989) administered the TOSFQ (Clark, 1980) to a sample of 186 elementary and secondary schoolteachers in Chile. Four main factors were identified: administrative support, professional distress, financial security and students' discipline, among which lack of administrative support was perceived as the most stressful factor. Borg and Riding (1991) conducted a questionnaire survey of 710 Maltese primary schoolteachers and revealed four factors as sources of stress: pupil misbehaviour, time or resource difficulties, professional recognition needs, and poor relationships with colleagues. Among these four factors, professional recognition needs had the strongest inverse relationship with job satisfaction and career commitment.

To summarize these various studies, the common sources of stress for teachers in Western countries are: misbehaviour of students, poor working conditions, lack of resources for teachers, poor relationships with colleagues, overload with teaching and nonteaching duties, and poor administrative support. Amongst these misbehaviour of students, teaching and nonteaching "overload" are probably the most important sources of stress. As will be shown below, these are also the significant stressors among Hong Kong teachers.

Effects of Teacher Stress

Based on the literature review, there appear three lines of research done on the effects of teacher stress:

Dunham's Classification

Dunham (1984) summarized the most frequent manifestations of teacher stress as: feeling of exhaustion, irritability, tension, and headache. He (1992) further identified four kinds of stress effects: (a) behavioural (e.g. heavy smoking, absenteeism, and turnover); (b) emotional (e.g. nervousness, anxiety, and depression); (c) mental (e.g. inability to concentrate); and (d) physical (e.g. headache and gastro-intestinal problems).

Apparently, Dunham (1984, 1992) has summarized well the common stress symptoms that might be manifested by stressed teachers. They are, therefore, useful indicators for teachers to detect signs of stress themselves, so that preventive and intervention procedures can be used.

Teachers' Burnout

Many studies reported a relationship between teaching and burnout. For example, burnout was found to be related to support and encouragement from administrators (R. H. Zabel & M. K. Zabel, 1982) and to personality and environmental factors (Nagy, 1982). Burke and Greenglass (1989) investigated psychological burnout among 833 men and women in teaching using the Cherniss Model. They found that various outcome measures (psychological and physical health, and job satisfaction) were related to psychological burnout.

Nowadays, more than 40 variables have been found to be related to teachers' burnout. S. Nagy and C. Nagy (1992) grouped them into three categories including environmental, intrapersonal, and professional factors. Nevertheless, empirical studies of psychological burnout among teachers sometimes reveal inconsistent results (Maslach, 1982; Russell, Altmaier, & Van Velzen, 1987). Farber (1984b) even argued that "teachers are not burned out, they are worn out. Instead of burning out from overwork, they turn off to the job and stop attempting to succeed in situations that appear hopeless" (p. 328). He went on to argue that those burned-out teachers had once been the most dedicated teachers in their schools. Therefore, he tried to clarify that there are more worn-out teachers than burned-out ones.

Psychological Distress

Schonfeld (1990b) criticized the literature on teacher stress for its lack of construct validity of stress and burnout instruments. In his study of stress among 67 teachers from New York City, he established the close correlation between the Centre for Epidemiological Studies Depression Scale and the Psychophysiologic Symptom Scale and concluded that they were measuring the same construct, called psychological distress. This construct is different from job-related morale (e.g. motivation to continue teaching and job satisfaction).

The validity of the findings obtained from studies done on the causes and effects of teacher stress and burnout has been criticized. It seems that only certain groups of teachers are more susceptible to certain sources of stress. The argument is that there are wide individual differences among teachers and a number of factors including those external to teaching (e.g. personality) should also be taken into consideration. Furthermore, there are weaknesses in the design of some empirical research. Most studies have

adopted mail surveys with response rates between 50 and 60 per cent. It may be the case that burned-out teachers were unwilling to respond. Another problem arising from the survey type of studies is that subjects are asked to respond to "forced-choice" questions, in which the items are artificial and "atheoretical." Perhaps a greater variety of methodologies should be used, such as the one employed by Russell et al. (1987), who asked the subjects to list the three most stressful events they had experienced at work in the previous school year.

Coping Strategies

Social Support

The concept of coping is one of the key facets of stress. Lazarus and Folkman (1984) viewed coping as a stabilizing factor that may help individuals maintain psychosocial adaptability during stressful periods. Many studies suggested that social support may be a useful strategy for preventing teacher burnout (Moracco & McFadden, 1982; Paine, 1981; Russell et al., 1987). However, the findings of research on the effectiveness of social support to cope with stress are inconsistent (Brenner et al., 1985; Burke & Greenglass, 1993; Dunham, 1984; Kyriacou, 1980, 1981).

Direct Action

Brenner et al. (1985) found that a coping strategy labelled "direct action" appeared to mitigate job-related stress. Schonfeld (1990a) demonstrated that advice seeking and direct action were mostly related to lower depressive and psychophysiologic symptom levels. Jenkins and Calhoun (1991) categorized direct action as those methods that "have a direct impact on the source of stress, such as improving teacher-administrative relationship, job redesign, staff development and improving teacher status" (p. 62).

Indirect Method

The literature reviewed so far has demonstrated that, even though some of the findings are not fully consistent, there do appear to be ways to improve teachers' ability to cope with stress. Despite strengthening the role of social support, the direct action approach can be faulted. Jenkins and Calhoun (1991) argued that an "indirect method" is also very effective. This approach aims at helping individual teachers to "make some changes in interpretation, behavior, or other response to the stressor" (p. 62).

Research on Teacher Stress in Hong Kong

As suggested in the introduction to this article, teaching in Hong Kong is a stressful occupation. Cooke, Pang, Kan, and Shek (1990), based on their study of beginning teachers in Hong Kong, reported that the first year of teaching was not at all easy. About 45 per cent of the sample considered their first year experience difficult or extremely difficult. Slightly higher percentages were found for the partially trained (56 per cent) and untrained groups (50 per cent). The main sources of stress were busy schedule, tiredness, little social life, and heavy workload. Mo (1991) examined the relationship of occupational stress, Type A personality, and social support with the three aspects of teacher burnout (emotional exhaustion, depersonalization, and personal accomplishment). He found that teachers who are single, and with fewer years of teaching experience reported a higher level of burnout. Moreover, teachers experiencing more stress but lacking social support were more likely to burn themselves out.

Chao (1995) has conducted a study to investigate the relationship between work stress, symptoms of poor health, job satisfaction and social support in 50 primary and 50 secondary schoolteachers. The results revealed that 46 per cent of the respondents found teaching stressful. Heavy workload and students' unruly behaviour are major sources of stress. Bivariate analysis showed that teachers who reported a higher level of work stress had a higher incidence of poor health and lower job satisfaction. In addition, teachers who reported more social support from colleagues experienced less work stress. These results corroborated those obtained from previous studies (Cox et al., 1978; Manso-Pinto, 1989; Schonfeld, 1990b). However, due to the fact that workload differs between primary and secondary school teachers, which in turn might make their stress levels rather different, it is difficult to interpret the findings from Chao's study, as half of the subjects were chosen from the primary sector.

A survey undertaken by the Hong Kong Federation of Teacher Union in 1994 revealed that 70 per cent of the respondents considered that the main source of stress came from school administration, 66 per cent from teaching, and 62 per cent from students ("Ninety per cent," 1995).

The Professional Teachers' Union of Hong Kong (1995) also conducted a survey on teacher stress. It sent 1,100 questionnaires to its members by random sampling method in January 1995, with a return rate of 45 per cent. The results showed that 61 per cent of the respondents found teaching stressful. The main sources of stress are: students' unruly

behaviour, large class size, too much marking, too much clerical work and so on.

All in all, the main sources of stress for teachers in Hong Kong are similar to those perceived by teachers in Western countries: students' misbehaviour, and teaching and nonteaching overload.

What kinds of strategies have been adopted in Hong Kong to cope with teacher stress? Recently, Yue (1995) presented the findings of a study on occupational stress among primary and secondary school guidance teachers. Social support was found to be negatively related to all measures of stress. He also found that primary school guidance teachers had confronted greater stress than secondary school guidance teachers. I suspect there might be bias in interpreting the findings from this study, as primary school guidance teachers and secondary school guidance teachers have different duties.

Chan and Hui (1995) examined dimensions of teacher burnout and their relationship with coping strategies among 415 secondary school teachers. The results showed that female teachers tended to complain more of burnout than male teachers; and guidance teachers did not report greater burnout than nonguidance teachers. In addition, both male and female guidance teachers tended to seek more social support in coping with stress.

Possible Policy Changes to Reduce Teacher Stress in Hong Kong

With the implementation of the 1974 White Paper, secondary education in Hong Kong has gradually developed from an "elite" to an "egalitarian" institution. Nine-year compulsory education (up to Form 3) was provided by 1979, and about 70 per cent of Form 3 graduates were able to enter senior secondary schools by 1986. Several issues arose following the implementation of free education, including the medium of instruction, the common-core curriculum, and the allocation of Form 1 places in secondary schools. These are believed by some local educators to be the major causes of student behavioural problems in schools, which in turn may be some of the causes of stress-induced suicides by teachers (Chao, 1995; Hong Kong Federation of Teacher Union, 1994; Professional Teachers' Union of Hong Kong, 1995). If this argument is valid, several policy changes should be proposed in order to alleviate students' misbehaviour. But this assertion is still highly debatable among educationists.

Since the early 1980s, debates over educational issues mainly concentrated on the need for improving the quality of education. An overall review of the education system of Hong Kong was conducted in 1982 by a Visiting Panel, which released the so-called Llewellyn Report. The government responded to one of the suggestions made by the report by establishing the Education Commission. Since its establishment, it issued reports in 1984, 1986, 1988, 1990 and 1992, which have offered consolidated and comprehensive advice to the government on educational matters. The following sections will be devoted to discussions on the unresolved issues relating to teacher stress in the light of the reports of the Education Commission.

Medium of Instruction

In Hong Kong, the common language for teaching and learning in classrooms is Cantonese. However, textbooks, notes, and examinations questions and answers are all in English. It might be the textbooks that are the main obstacles to learning. It appears that students of lower abilities cannot learn fruitfully due to language barriers. Falvey (1991) argued that there is a linkage between the medium of instruction and behavioural problems. Therefore, having English as the medium of instruction may be a source of teacher stress.

As Hong Kong is approaching 1997, the Education Department has continued to encourage schools to adopt Chinese as the medium of instruction. But it has been recently attacked by the Chairman of the Hong Kong Professional Teachers' Union (1995) for its reluctance to put forward a clearer policy on medium of instruction. Recently, another controversial issue has arisen: most people in Hong Kong are uncertain about whether Cantonese, English, or even Putonghua should be adopted as the medium of instruction. Pierson (1991) provides a lengthy discussion on this issue, but conclude that language of instruction will remain unresolved in Hong Kong's future.

Common-Core Curriculum

Another related issue is the rigid common-core curriculum, which may not be appropriate for a wide range of interests and abilities. The Education Commission (1990) admitted that the common-core curriculum "does not meet the needs of those at the extremes of the range of abilities" (par. 1.3.3). Some educationists advocate a more flexible and diversified

curriculum comprising both academic and practical subjects, as in the comprehensive movement in the UK, so as to cater to a wide spectrum of individual needs and interests. A parallel argument is that there should be multistreaming in schools. However, the practice of multistreaming in the British education has been challenged as a reflection of class structure of the British society which evolved from the early development of the school system in the nineteenth century. Therefore, Luk (1990) has argued that Hong Kong's unitary curriculum (i.e., almost all Hong Kong primary and secondary pupils attend the same type of school and follow basically the same type of study) aligns more with the principle of equality of educational opportunity than that in the UK. Nevertheless, it can be argued that a rigid curriculum might have positive effect upon the stress of teachers. Positive in the sense that teachers are not stressed by the need to tailor the curriculum for students, so workload can be reduced.

Allocation of Form 1 Places

With the implementation of universal education up to Form 3, the Secondary School Entrance Examination was abolished, and it was replaced by the Secondary School Places Allocation System, which is operated based on the principles of regionalization and "mixed ability" intake in the allocation of secondary school places. This practice is fundamentally based on the principle of "equal access" in the sense that students within the same band can have equal access to a particular school; therefore the notion of mixed ability is — "mixed" within a band. Nevertheless, the mixed ability intake is still under attack. There is a general belief that the potential of more able students who are allocated to poor schools cannot be realized, while the less able students who are assigned to good schools are likely to end up at the bottom of the ladder. In other words, the nature of this practice is segregative rather than integrative. It seems that neither group benefits from the policy of mixed ability.

Of course, the above argument is highly controversial because it touches on the issue of equality of educational opportunity. But most teachers would agree to the assertion that it is more difficult to teach students nowadays. Mixed ability in a classroom does cause additional administrative and pedagogical problems for teachers. As argued earlier, increased teaching or nonteaching workload in this way may be another major source of teacher stress (Chao, 1995; Clark, 1980; Cox et al., 1978; Dewe, 1986).

Behavioural Problems in Classrooms

As already argued, behavioural problems in classrooms have a number of causes: frustrations with English as medium of instruction; lack of motivation in the rigid common-core curriculum; and difficulties arising from classes of mixed abilities. The Education Commission Report No. 4 (1990) advocated several proposals to alleviate students' misbehaviour, and the Education Department has implemented some of its suggestions.

The Education Commission Report No. 4 (1990) suggested setting up three practical schools to provide a diversified curriculum comprising academic and practical subjects (par. 4.4.3). So far three practical schools have been built to admit unmotivated pupils and those who are of lower learning abilities. Some educationists have asked for building of more such schools in the future. However, this involves a value judgement: is it worthwhile to spend more money on the minority (about 14 per cent) rather than on the majority of students who are in regular schools? Perhaps a less costly solution, as proposed by Lee (1991), is to promote "value education" through the integration of formal curriculum and the informal system such as extracurricular activities.

Another solution for students' behavioural problems is to operate primary schools on a whole-day, rather than bisessional basis. The rationale for this proposal is that pupils, in particular Primary 5's and 6's, may engage in delinquent behaviour on the streets after school. The government has planned that "all new primary schools operate on a whole-day basis from September 1993 in addition to the 39 existing bisessional schools which are already due to become whole-day over the next five years" (Governor's Report, 1992, p. 9). But the implementation of this proposal requires extra funding, and teachers are obliged to stay longer everyday in school. Actually, this proposal has been partially achieved so far.

Recognizing that quite a sizable percentage of students who display behavioural problems are those who are newly arrived from the mainland China, most recently, the government has initiated orientation programmes for these students. The programmes are run by social service agents. The expenditure allocated for this project is about 3 million dollars a year. The purpose of such programmes is to help those children to become more familiar with the social situation and school curriculum in Hong Kong. Most important of all, Cantonese and English courses are offered because those children mainly speak Putonghua. It is hoped that through this

project students' misbehaviour will be reduced, and in turn teachers' stress will be reduced.

Targeted Alternatives for Reducing Teacher Stress: Expanding Educational Psychology Services

Based on the research findings obtained in Hong Kong and worldwide, "misbehaviour of students" appears to be the most important source of teacher stress, particularly at the secondary school level. The Education Commission (1990) then proposed the "whole school approach" to alleviate students' misbehaviour. In this approach, teachers are responsible for guidance. The Report (Education Commission, 1990) recommended that "all teachers in a school actively participate in assisting students to resolve their developmental problems" (par. 3.2.6, 3.3.1[a]), and "training for secondary school guidance teachers should be strengthened" (par. 3.2.9). This suggestion may create increased workload for teachers. Besides teaching, teachers must attend training courses for guidance. Even though it has been found from Chan and Hui's (1995) study that school guidance teachers did not have a higher level of burnout than nonguidance teachers, some teachers may feel more stressful if they do not have the formal training but need to take up a specialist's responsibility.

Hui (1991) suggested that "educational psychologists can offer a significant contribution in in-service training and consultation" (p. 27). Nevertheless, as Winter (1991) commented, "educational psychology in Hong Kong is in a state of crisis" (p. 29). The ratio of educational psychologists to students in Hong Kong was 1:42,000 in 1991. Compared to other countries (about 1:4,000 in the U.K., 1:2,500 in Australia, and 1:2,000 in U.S.A.), the staffing ratio in Hong Kong is far from satisfactory, especially given Hong Kong's high per capita GNP and a status equivalent to developed country. The Education Commission Report No. 4 (1990) proposed expanding local training facilities for educational psychologists (par. 3.2.32). The Report projected that by 1997-98 there will be 86 educational psychologists. By that time, the staffing ratio will reach 1:12,000. The following paragraphs are devoted to describe the costs and benefits of expanding educational psychology services.

Costs of Expanding Educational Psychology Services

There are currently around 40 educational psychologists in Hong Kong. In

order to achieve the target of providing 86 posts as proposed by the Education Commission (1990), 46 educational psychologists need to be trained locally. In fact, two faculties of the University of Hong Kong have already produced some graduates, and some experienced emigrated educational psychologists have returned from overseas. Therefore, it seems that only 35 educational psychologists need to be trained locally in the immediate future. As the Department of Education of the University of Hong Kong restarts the training of educational psychologists, and the Department of Psychology of the same university admits students to take educational psychology course in alternate year, the university should be able to train 30 educational psychologists in two years. Based on the estimation of subsidy for each student is HK\$150,000, the total cost to Hong Kong's educational system would be around 5 million Hong Kong dollars. In addition, to expand educational psychology services, the government would have to allocate extra funding for practitioners' salaries.

Benefits of Expanding Educational Psychology Services

It can be assumed that by 1997 there will be around 80 educational psychologists. The Education Department can allocate to each district four to five educational psychologists (there are 19 districts in Hong Kong), who will be responsible for all the primary and secondary schools in that district. By that time, teachers can make referrals of those students who display severe emotional difficulties or learning disabilities. In addition, teachers can seek professional consultation more easily. Thus, teachers' stress may be reduced, and therefore teachers' suicide rates, absenteeism, and turnover may be reduced in the long run. The bills for sick leaves taken by stressed teachers will be lowered accordingly, thus lowering government expenditures.

With the institutionalization of educational psychology services, the spirit of the whole school approach can be implemented more effectively. School guidance teachers can seek professional consultation from educational psychologists within their school district. There will be more co-operation between teachers, school guidance teachers, and educational psychologists in providing guidance for misbehaving students and in organizing courses or projects for preventive measures. In a sense, as suggested by Hui (1991), educational psychologists can contribute to in-service teacher training.

Recommendations for Future Research

Since the mid-1970s, there has been a vast amount of research in teacher stress, and various conceptual models have gradually been developed. Perhaps, for future research, it is more constructive to adopt an interactional approach (Dunham, 1992): to identify the causes of teacher stress and the strategies teachers can use to cope with it.

One of the neglected dimensions in the research literature on teacher stress is the cross-cultural perspective. Only a few studies were conducted at the cross-national level, say between Canada and Sweden (Brenner & Bartell, 1984), between Italy and France (Pedrabissi, Rolland, & Santinello, 1991), and between Jewish and Arab teachers in Israel (Gaziel, 1993). Cross-cultural comparisons would help to illuminate the components of the stress process. As we are already approaching 1997, more comparative studies in teacher stress should be done between Hong Kong and China.

S. Nagy and C. Nagy (1992) argued that one of the weaknesses in research design in teacher stress is "the single-time analysis which has led to the premise that burnout is a relatively stable trait" (p. 524). Few studies have examined samples repeatedly to assess the mechanism and sequence of burnout rates. In future research, it is worthwhile to engage in more longitudinal studies.

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